

Data Center

Challenge Assignment Rubric

Check Items

Description	Points	Comments	Grade
Rack units are correctly defined.	6		
Differences between 1U, 2U, and 4U servers are explained correctly.	2		
Ways to guess how much power a system will consume at full load are described correctly.	5		
The usefulness (or lack thereof) of TDP is explained correctly.	5		
Power distribution from the mains to the servers in the data center is described correctly.	6		
The different components of the power delivery system are defined correctly, including (at a minimum) the mains supply, UPS(es), and PDUs.	6		
A correct demand-side explanation of Power Factor is given.	6		
Calculating the size of a UPS in VA for a server load in Watts is explained correctly.	6		
A ton of air conditioning is defined correctly.	5		
A correct calculation is shown that relates tons of cooling to Watts of server load.	5		
The need for redundant cooling in the data center is correctly explained.	4		
Fire suppression options are correctly described (minimally including clean agent and water backup).	6		
Advantages of modern clean agents over Halon are correctly identified.	4		
The correct reason why water is not the first choice of suppression	4		

agent is noted.			
The action to take if the data center fire suppression system activates is identified correctly.	10		
Basic electrical safety is described.	4		
The action to take if a piece of equipment catches fire is identified correctly.	6		
The action to take if a person is being electrocuted in the data center is identified correctly.	10		
MAXIMUM GRADE:	100	Hypothetical Grade:	

Grade

Calculation Algorithm	Your Grade
If Hypothetical Grade \geq 75 then enter Hypothetical Grade Else enter 0	x

Remarks

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